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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/397,675 09/16/99 YACHI

M 991021

EXAMINER
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MMC2/1108

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ART UNIT	PAPER NUMBER
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2856

DATE MAILED:

11/08/00

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trad marks**

# Office Action Summary

Application No.  
09/397,675

Applicant(s)  
Yachi et al.

Examiner  
H. Kwok

Group Art Unit  
2856



☐ Responsive to communication(s) filed on \_\_\_\_\_

☐ This action is FINAL.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claims

☒ Claim(s) 1-18 is/are pending in the application.

Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

☐ Claim(s) \_\_\_\_\_ is/are allowed.

☒ Claim(s) 1-18 is/are rejected.

☐ Claim(s) \_\_\_\_\_ is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☒ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been

☒ received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 3

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

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## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Specification***

2. The disclosure is objected to because of the following informalities. Appropriate correction is required.

On page 10, line 1, the phrase "FIG. 6" should be changed to -- FIGS. 6a and 6b -- to be consistent with the drawings.

### ***Claim Objections***

3. Claims 1-6, 8-18 are objected to because of the following informalities. Appropriate correction is required.

In claim 1, line 6, what is the word "its" referring to?

In claim 3, line 3, the word -- to -- should be inserted after the word "connected".

In claim 4, line 6, what is the word "its" referring to?

In claim 5, line 2, the phrase "the rotation" should be changed to -- a rotation --. In line 3, the phrase "the detection" should be changed to -- a detection --.

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In claim 8, line 2, the phrase “the rotation” should be changed to -- a rotation --. In line 3, the phrase “the rotation” should be changed to -- a rotation --.

In claim 11, line 3, the phrase “a plurality of sets each” is not clearly understood. Please clarify.

In claim 13, line 3, the phrase “a plurality of sets each” is not clearly understood. Please clarify.

In claim 14, line 3, the phrase “a plurality of sets each” is not clearly understood. Please clarify.

In claim 15, line 3, the phrase “three sets each” is not clearly understood. Please clarify. In line 5, the phrase “the detection” should be changed to -- detection -- to provide antecedent basis.

In claim 16, line 3, the phrase “three sets each” is not clearly understood. Please clarify. In line 5, the phrase “the detection” should be changed to -- detection -- to provide antecedent basis.

In claim 17, line 3, the phrase “three sets each” is not clearly understood. Please clarify. In line 5, the phrase “the detection” should be changed to -- detection -- to provide antecedent basis.

In claim 18, line 3, the phrase “three sets each” is not clearly understood. Please clarify. In line 5, the phrase “the detection” should be changed to -- detection -- to provide antecedent basis.

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***Claim Rejections - 35 U.S.C. § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,792,953 (Kaneko et al.).

With regards to claims 1-3, Kaneko et al. discloses an acceleration sensor having a vibrator with an attached weight comprising, as illustrated in Figures 1-3, a vibrator 21 having a vibrating element 23 made of piezoelectric element; a weight portion 26 consisting of weight 23 is connected to the vibrator and supported at a position different from the center of gravity of the vibrator; a detecting section 25a-25d for detecting the amount of characteristic that is exerted in the vibrator upon application of an acceleration in one direction to the vibrator and the weight portion. (See, column 2, lines 39-67; column 3, line 55 to column 4, line 56).

With regards to claims 4-6, the claims are commensurate in scope with claims 1-3 and are rejected for the same reasons as set forth above.

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***Claim Rejections - 35 U.S.C. § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 7-18 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 4,601,206 (Watson).

With regards to claims 7-18, Watson discloses an accelerometer system comprising, as illustrated in Figures 1-3, a first sensor 15x, 15x', 15y, 15y', 15z, 15z', Gx, Gy, Gz for detecting acceleration upon application of acceleration and a rotation angular velocity and a second sensor 15x, 15x', 15y, 15y', 15z, 15z', Gx, Gy, Gz for detecting acceleration upon application of acceleration and no rotation angular velocity; a differential detector 17,19 which detects a difference between outputs of the first sensor and the second sensor. (See, column 3, line 12 to column 4, line 16). The only difference between the prior art and the claimed invention is the structural arrangement of the first sensor and the second sensor as presently claimed. The structural arrangement of the first and second sensors is well known in the art to comprise a vibrator supported at a position with the center of gravity different from the position of the vibrator or position with the center of gravity being the same as the position of the vibrator as presented in the prior art cited of record. It would have been obvious to a person of ordinary skill

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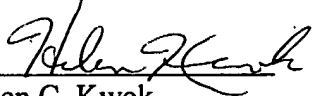
in the art at the time of invention to have readily recognize the advantages and desirability of fabricating the first and second sensors of Watson to have the structural arrangement, as presently claimed, since this is a mere design choice and would not change the performance of the apparatus regardless of the structural arrangement of the sensors, namely to measure acceleration.

*Conclusion*

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The references cited are related apparatus for determining acceleration and angular velocity.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helen Kwok whose telephone number is (703) 308-8149.

  
Helen C. Kwok  
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hck  
October 27, 2000